KEYBOARD UNIT SETUP: REVIEW

The step-by-step Keyboard Unit operatihg procedure we have covered runs as follows:

Turn on Power switch; wait till Circuit light comes on.
Insert width cards and identification tags.
Set point size.
Set film advance.
Convert line length from picas to ems and units.
Set line length.
Record (press Record button).
Select type face (grid).
Set Space Bar Width knob.
Set line of type at keyboard.
End line (one of five buttons).

Other related okeratiobs include use of Tape Advance Stop Photo Machine, Unit Space and Quad Space buttons; also use of the Linomix attachement. All these are discussed in sections below.

To familiarize themselves fully with the standard operating procedures, new operators should go through the ~~entire procedures, new operators should go through the~~ entire sequence of steps a number of times, setting several lines of type each time and using as many machine features as possible.

Note: Incomplete or inconsistent setups given to the Keyboard Unit will cause the typewriter keyboard to lock so keys will not depress. Or the type face selectiob at right-hand console panel may not be accepted, as shown by the fact that font select button when pressed will not stay down and will not light up. The corrective procedure is to Line Erase, then go back over the information setup procedure in proper sequence.

Other related operationsinclude use of Tape Advance, Stop Photo Machine, Unit Space and Quad Space buttons; also use of the Linomix attachment. All these are discussed in sections below.

To familiarize themselves fully with the standard operating procedures, new operators should go through the entire sequence of steps a number of times, setting several lines of type each time and using as many machine features as possible.

Note: Incomplete or incomsistent setups given to the Keyboard Unit will cause the typewriter keyboard to lock so keys will not depress. Or the type face selection at right-hand console panel may not be accepted, as shown by the facet that font select button when pressed will not stay down and will not light up. The corrective procedure is to Line Erase, then go back over the information setup procedure in proper sequence.

LINE ENDING FUNCTIONS

When all the contents of a line of type have been keyboarded, the fact that the line is ended must be signaled to the Linofilm equipment. This is done in a way which at the same time tells the equipment how to handle the line.

Every line is ended by depressing one of five buttons grouped together conveniently at the lower right corner of the left-hand console panel. They carry abbreviated designations for Quad Left, Quad Right, Center, Line Cancel, and Justify. Note that a line is not ended by using the Carriage Return key on the typewriter. This will return the typewriter carriage but has no other effect.)

"Quadded" lines, obtained by using the Quad Left and Quad Right buttons, are those in which type (and any keyboarded spaces) in the line is moved flush against the left-hand or right-hand limits of the line length, respectively. The last line in this paragraph is set QUAD Left. Any left-over space in the line appears at the right.

In lines ended by the Center button, keyboarded content is centered in the line length set up on the Keyboard Unit, with any excess space divided equally to right and left.

Justified lines are those which will be expanded to the full length when assembled in the Linofilm Photo Unit. Such a line cannot be produced unless it contains one or more justifying spaces. These are spaces produced by depressing typewriter spacebar with Space Bar Width Knob set at position J. In addition, a justified line cannot be produced unless enough type and spaces have been set to enter the so-called justification zone, as indicated by a buzzer tone and lighting up of the Justify Button on the key board console.

The Line Erase button ends a line by punching a tape code that causes the Linofilm Photo Unit subsequently to ignore the line. In addition to eradicating lines containing errors (if noted before the line is ended in another way), this function is useful in providing for "cast-off' lines, which are set only for trial or calculation purposes.

LINOMIX

The Linomix attachment enables the operator to set up a Linofilm Keyboard Unit for any three combinations of point size, line length and film advance. The attachment mounts on top of the Keyboard Unit just above the Computer Indicator panel.

For example, on a book or pamphlet job the keyboard might be set up for the headlines, body copy and footnotes before starting. On coming to a point of change from body to heads, instead of resetting all new data in the Keyboard Computer Control Panel, the operator simply switches to one of the other preset combinations on the Linomix attachment.

There are many other uses for the Linomix attachment. To handle the occasional short lines when required for any reason, set one of the combinations for the shorter line length but with point size and line length same as for body. In effect with one Linomix attachment you have three Computer Indicator Panels.

Two combinations of point size, film advance and line length can be set up on the two groups of setting knobs provided on the Linomix panel. The third combination is set up on the regular Computer Indicator Panel. The operator selects one of the three combinations by using the long selector knob at center of Linomix panel.

Note that pilot lights at extreme upper right and left of Linomix panel show which of the combinations set up on the Linomix is in use.

After selecting a setup combination, the operator must always Record--using either the Record button on the Linomix or the one on the Computer Indicator Panel.

SETTING UP THE JOB

Three facts about the job must be set up on the Computer Indicator Panel (just above the typewriter):

Point size
Film advance
Line length

After these have been set, depressing the Record button will cause the information to be punched into the tape. The three settings may be made in any order, but a fixed pattern is a good work habit. We suggest the sequence listed above. The actuation of the Record button must come last.

POINT SIZE

The point size knob is rotated till the number showing through the window alongside reveals the point size and the range desired. Where a given point size can be set from either or two, both are provided on the dial, with range shown by appropriate letter--A, B, or C. Use the one corresponding to the width card you will be using.

FILM ADVANCE

Next set the Film Advance by two knobs: the left knob for tens and the right for single points. Remember, film advance means the total amount of vertical space consisting of point size plus added space between lines.

> Example: If we are setting 10-pt. type and want 2 points of extra space between lines, we will set Film Advance at 10 plus 2 or 12 points. The knobs are turned to set a 1 in the tens position and a 2 in the singles.

Note that "leading" or added space will appear at top, not bottom, of type lines affected by a given Film Advance setting.

LINE LENGTH

Line length is next in the sequence of setting up the Keyboard Unit. The instructions will normally be given in picas. Before dialing line length into the Keyboard Unit, the picas must be converted to ems and units of the type size being set. To make this conversion ~~chart~~ from picas to ems and units, a pica-em conversion chart device is provided above and to the right of the typewriter.

To convert line length, use knobs at right side of chart to rotate internal scale till the specified line length in picas appears at far left end of transparent window of conversion chart. Then follow the fixed metal scale fastened along top of the transparent window until you find the point size of type you will be setting. Under this point size you will find the desired line length conversion expressed in ems and units.

Take this information and using the Ems and Units knobs on Indicator Panel rotate the dials beside the windows until the proper em and unit figures are shown.

In the accompanying example, a 16½-pica line length set in 10-pt. type is converted to 19 ems and 14 units. The 19 for ems is followed by a hyphen and then 14 for units, as it apperars on the conversion chart.

TO OPERATE THE KEYBOARD UNIT

Apiece of copy usually is marked-up prior to the keyboard operation and carries the following information:

(1) Size of type to be set (in points).
(2) Leading space between lines (in points).
(3) Length of line (usually given in picas).
(4) Type face or faces to be used.

It is also necessary to know what kind or kinds of lines are to be set. Will they be justified lines, quadded to the left or right, or centered? (They may vary, of course.)

With the above information in hand, the Keyboard Unit can be set up and tape perforation started.

First of all, turn on the Keyboard Unit with the toggle switch in upper right corner of left-hand console panel. Pilot light marked AC next to this switch should light up, showing that power is on! After half a minute or so, the other adjoining pilot light marked "Circuit" should come on, indicating the Unit is ready for use.

Open the door to the perforator at lower right, below the desk top of the Keyboard Unit. This door is unlatched by pressing in a flush button in its front. Using the black handle on front of perforator assembly proper, pull the perforator out (it rolls easily on rails) till it hits rail stops.

Now hold down the Tape Advance button on left-hand console panel until enought paper tape has been fed through perforator to reach takeup reel. Takeup reel will be turning, but can readily be stopped by hand. Pull off cover plate of takeup reel, and put it aside temporarily.

Insert tape under one of the flexible metal strips around humb of takeup reel. Fold about an inch of tape back on itself around the metal strip. Replace takeup reel cover plate, roll perforator assembly back into cabinet, and close door.

REMOVING TAPE

It is best to break up the job at the Keyboard Unit into sections of "takes" of reasonable length. Otherwise unmanageable lengths of tape and of Photo Unit output paper are produced.

With practice you will learn about where to introduce break-points while keyboarding. Each section or take will be on a separate length of punched tape. At a break-point, first advance tape as previously described. Tear tape while it is advancing, leaving enough to start a new length on takeup spindle.

To remove punched tape: Note that it is wound on a metal "spider" frame with a wide circular flange. Place thumbs on wooden hub of takeupkspindle, hooking fingers behind flange. Pull flange forward. Length of punched tape will come along with metal spider. Tape can easily be removed from spider, which is then replaced on take-up spindle.

THE COMPUTER PANEL

Located directly above the typewriter, the computer panel includes four "nixie" indicator tubes that tell you exactly how much space, in Ems and Units, is left in the line you are setting at any time.

Also, control knobs on this panel are used for setting the following information at the beginning of a job or when any of these facts about the job must be changed:

Point Size--Height of type in"points."
Line Length--Width of the line in Ems and Units.
Film Advance--Type size plus added space desired between lines.

Finally there is the "Record" button that must be pushed to record these facts in the form of coded tape perforations every time point size, line length and film advance are set up or changed.

THE LEFT-HAND CONSOLE PANEL

This provides controls for the spacing and end-of-line functions (see details later). It also contains a Tape Advance button, a button for inserting a Stop Photo Unit signal in the tape, and main Keyboard Unit power switch with "On" and "Ready" pilot lights.

THE RIGHT-HAND CONSOLE PANEL

This panel provides pushbutton selection of type fonts. Up to 18 fonts are available at any one time. Font designation nameplates are easily changed to correspond to type faces and positions desired. The Home Grid knob has no effect except on the typewriter:When the font position set by this knob is in use, typing is in black Selection of any other font position causes ribbon shift resulting in typing in red.

WIDTH CARDS

Awidth card os a simple printed circuit that is quickly and easily inserted into the Keyboard Unit. It is used to assign a width to each character in a given type font. Because widths of characters vary from one type design to another, each type font requires a sifferent width card.

A Linofilm System keyboard will set type from up to 18 different type fonts with a given maching setup. Additional fonts may be introduced by simple hand work. Corresponding to the 18-font capacity, located at the upper right corner of the Linofilm Keyboard Unit's front panel is an enclosed location where 18 width cards may be plugged in. this location is called the width-~~bin~~- card bin.

Behind the door of the width card bin are 18 horizontal slots for housing the width cards. The slots are numbered at both ends to insure that cards are plugged in straight and in the proper place.

Select a width card, holding it with the identificatio n tag right side up and facing you. This position indicates the front as well as the top of the width card. Choose a slot in the width card bin. Insert the card in the slot, making sure the card is alongside the same slot numeral at each end. Push the card into the slot till some resistance is felt, then apply considerable force evenly with both hands till width card is fully seated.

A Keyboard Unit will operate with any number of width cards in place, up to 18.

Identification Tag: Shipped with each new width card is a small engraved tag carrying the same information as on the front edge of the width card. This rectangular plastic tag is to be placed in the proper numbered position on the right-hand console panel of the Keyboard Unit--corresponding to the width-card position number used. The operator can then see at a glance which fonts are available, and in what positions.

THE PERFORATOR

Bear in mind that the purpose of the Keyboard Unit is to produce the paper tape that controls actual typesetting in the Photo Unit. The perforator mechanism is the part of the Keyboard Unit that puts the holes in the tape.

Parts that normally concern the operator include tape supply reel, punched tape takeup reel, punch block, and chad receptacle which collects the "confetti" produced by the punching.

Tape can bee moved backward by hand with a knob at front of the perforator assembly. It can be advanced by using the Tape Advance button on left-hand console panel or on the perforator assembly.

An opening in the desk-top of the Keyboard Unit makes it possible to inspect the perforations. If necessary the machine may be operated with the perforator mmechanism out in full view of the operator.

GRID RANGES

In the Linofilm System the Photo Unit sets type under automatic control of the punched paper tape by successively making photographic copies of characters. The master characters are on square glass grids, each of which carries a gont of 88 characters. There can be up to 18 grids in a Photo Unit at a given time.

To cover the full point size range of Linofilm with good typographis design throughout, grids are made in three basic ranges or kinds, called the A, B and C range. Labels on edges of grids and corresponding width cards and identification tags make it easy to determine range.

Red Label marked A: 6, 7, 8, 9, 10 and 12 pt.
White Label marked B: 12, 14, 16, 18, 2- and 24 pt.
Blue Label marked C: 18, 24, 30, and 36 pt.

Any one grid will produce type only in the sizes that correspond to its particular range.

Within certain restrictions, additional sizes may be produced by using extended grid ranges D (42 and 48 pt.) and E (48 and 54 pt.0.

QUAD SPACES

The row of six pushbuttons marked Quad Space, on the left-hand console panel, is used to "set" fixed spaces at any time during composition in the same way as characters are set. Press one of these buttons at a time, repeating or mixing them as needed.

Each time a Quad Space button is pressed, a code is perforated into the tape representing a corresponding amount of space in the line. The line remainder shown on the nixie tubes is also reduced by a suitable amount.

A common use for qud spaces is in paragraph identing: the space, often specified to be 1 em (18 units), at the left-hand end of the first line of each paragraph in many styles of composition. When starting such a line, "set" the space desired, as if it were one or more characters, by pressing quad-space button or buttons.

Quad spaces are also used in tabular composition where a word or number must be started at an exact predetermined place in the line. Press quad-space buttons, one at a time, until nixie tube indicator shows the desired position. Then set type characters as required.

Sometimes a particular space width must be used very frequently: for example in numerical tabular work where figures are normally 9 units wide and spaces must be set to line up vertically with figures (in columns). In such a case the 9-unit quad-space button can be pressed as needed. A faster way may be to turn the Space Bar Width Knob to 9, in which case a 9-unit space is set every time the spacebar on the typewriter is pressed.

Space at either end of a line of type is not normally set with the quad-space buttons. It is faster to handle such cases with the quadding and centering functions, (See section on Line Ending Functions.)

UNIT SPACES

Along with the other spacing controls grouped on the left-hand console panel will be found a row of lever switches marked Unit Space. They enable the operator to add space to or subtract from individual type characters, in units (18ths of an em). Like all the numerical markimgs on theis panel, they are marked in units.

Each imot-space lever switch has three positions: down (toward operator), center, and up (away from operator). Center is the normal or "off" position, and either of the other positions produces the added or subracted space controlled by that switch. A switch handle may be pulled down against a return spring for temporary use, or for longer use may be pushed up into a locking position. In either case the unit-space switch must be in an actuated (off-center) position throughout the time the affected characteror characters are being set.

Space is always added to or subtracted from the left-hand side of a character. To illustrate, take an example of kerning, or special close-fitting of two adjoining characters. In the word "To," to dit "o" partly under the overhang of "T", ~~switch~~ set "T" normally; next pull minus-2 unit space switch lever down; then, while holding it there, set "o"; finally let unit-space switch go back to normal or off position.

When necessary, up to 3 units of width can be added to a character by actuating both the plus-1 and the plus-2 unit-space switches together. In the same way up to 6 units of width can be subtracted by actuating more than one "minus" switch.

There is one limitation in the use of the unit-space switches. The Keyboard Unit will not accept a character of less than four units in width. If an operator should try to subract several units from a narrow character, the Line Erase button may light up and the keyboard lock, indicating a rejection.

TAPE ADVANCE; STOP PHOTO

These two controls appear in the lower left corner of the left-hand console panel. The Tape Advance button moves tape forward through the perforator as long as the button is held down. Every time it is pressed, it puts an end-of-tape signal in the tape which stops the Photo Unit. This signal is wanted at the end of a "take" or job, but it is not desirable at the beginning. To run out a length of tape free of the stop signal at the start of a job, hold Tape Advance button down; tear off first inch or two of tape run out which contains the stop code; then, continuing to hold the button down, advance enough tape to attach to takeup reel. All this must be done on one actuation of the Tape Advance button.

To insert a signal for stopping the Photo Unit without advancing ta½e, use the Stop Photo Machine button. This signal is used to draw the Photo Unit monitor's attention to any special instructions he may need during the job. The most common condition requiring this is a change from paper to film in Photo Unit, or a change in the fine-adjustment leading control at Photo Unit. Any such instructions can be written out on the tape.